An non varia

Inaugural Dissertation on

Animal Life

For,

the degree of Doctor of Medicine

in

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By John Curlé of Pennsylvania

"It is for want of experience that men form su[illegible] perfect ideas of matter, of its properties, of its combinati[illegible] its force, of its manner of action of the energy which [illegible] its from its essence, and of course the whole universe [illegible] omes to them but a world of illusions"

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Seneca

Of all the Phenomena of nature those of life are truly the most perplexingly astonishing, the most darkly mysterious – The mind in contemplating the fabric which it governs and directs, is confounded in the intricacy of its mechanism; and is forced to acknowledge, that human thought is indeed far too narrow to comprehend that wisdom and power which gave it existence –

Mysterious and wonderful as the frame of living man truly is, Philosophy has advanced not a little in the developement of its nature –

Life, its cause and its essence has been a theme of speculation to many, and the most renowned Physicians in all ages have had a belief that an accurate knowledge of life's Nature is the first and most fundamental principle in the science of Medicine. There is no doubt, that from confused and erroneous ideas on this subject many contradictory and absurd theories in Medicine have had their origin – There is indeed no science cultivated by man, which has so many opposing opinions and visionary theories blended with established truths, as the science of Medicine; and hence it has often been unjustly stigmatized, as a science intrinsically vague and conjectural –

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This seeming uncertainty of our science is not real; it is determinate and invariable in its principles; and tho' its fair and substantial fabric be soiled with the dross of speculation, we cannot therefore deny the elegance and firmness of its foundation —

Had medical Philosophers reasoned on the Phenomena of animate nature, by the sure guide of reasonable induction, many of the bewildering cobwebs of error and illusion, which sophistry and dreaming ingenuity have woven would in all probability never have existed in our science, to mislead the mind —

Cullen appears to have been the first, who thought correctly on the nature of life; "The Human body" said the Dr. "is not an automaton or selfmoving machine, but is kept alive and in motion by the constant action of stimuli upon it"* But tho' Dr Cullen had this confined yet correct view of this truely sublime doctrine of the ~~[illegible]~~ nature of life; yet he, perhaps not clearly seeing the elegance and truth of the idea, abandoned it again for his favorite and more familiar Vis Medicatrix Naturæ — Thus abandoned and rejected by its father the embryo doctrine of the "forced state" of animal life was afterwards fostered and expanded ~~by~~ by the great Drs Rush and Brown into a system of principles, at once regular, extensive, sublime and correct — a doctrine which must last while correct reasoning and sound principles in science, are admired —

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life is, still by a strange infatuation for mysterious agents in the explication of mysterious phenomena the belief in the existence of a self existing vital principle is cherished by men of the highest rank in our Profession —

At present therefore, the most prevalent Opinions on this subject are 1st That the Phenomena of life depend upon the agency of a principle, which in its own nature is vital — and 2dly That life is the result of physical necessity; or in other words that the phenomena of life necessarily follow the action of stimuli upon peculiarly modified Matter, which in its own nature and independent of extrinsic causes is inanimate — "Which of all these Opinions is true, some god may know, we contend ourselves with enquiring which is the most probable."

The principle of animation, which has received various and fanciful names, is supposed by those who believe in its reality, to be that power, by the energy of which dead matter is converted into living systems — and not being cognizable by the senses, as immaterial, in other words as spiritual —

But, indeed, tho' there are many who believe in the agency of such a principle, who assert the independence of its existence; nay even the intelligence of its nature, who nevertheless, will not, call it Spirit, as if the name could add absurdity to the idea —

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Be its name what it may; we do not wish to combat words; but we refuse to believe in the terrene existence of any such being, which enjoys independent Reality—

As we cannot see any difference between the characters ascribed to the Physician's vital principle, and the Metaphysician's Spirit, we shall consider them hereafter as synonymous under the term of Spirit. And as the establishment of the soundness of a doctrine depends as much upon shewing the invalidity and falsity of opposing opinions, as upon arguments for its own substantiation, a few pages upon the probability or improbability of the existence of Spirit can not be irrelevant—

Should it appear upon examination, that ~~that~~ these beings have, indeed, no real existence; that they are the mere dreams of fancy; should reason and common sense incline to scepticism; that doctrine of Animal life, which has for its basis, the existence of such ~~an~~ being, must be rejected as visionary and false— Spirit has long been the common solver of all inexplicable phenomena; but in referring us to ~~the~~ agency of this supposition cause, for the appearances of things, ~~they~~ Men, have but pushed us farther into the depths of darkness, and have but rolled Mountains in the room of pebbles— Great and many are the errors, which this doctrine has engendered in the world; the mind lured astray by the illusive chimera, (Spirit) prevented from turning its attention to matter, its laws, and its modifications, has filled the universe with phantoms for realities, dreams for causes —

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A very learned and beautiful writer, remarks, that mankind will ever claim an acquaintance with the spiritual in proportion to their ignorance with the Material world; and indeed it may safely be afirmed, that untill reason and philosophy shall have dispelled every cloud of dubious mystery from the face of nature, untill the eternal & yet latent laws of matter are finally developed we may expect to see the world teem with the exploids of ghosts, specters and hob-goblins —

Spiritualits have indeed a "Name" for their idol but they give it neither "a local habitation" nor a "shape" — Spirit say they, is a being, simple, ~~invisible~~ invisible, indivisible and unextended; that is a being possesing every negative property of real existence! —

Let us examine it according to this ~~definition~~ definition —

Dr. Darwin in the 1st vol: of Zoon: has given us a most satisfactory and conclusive argument, against the existence or agency of spirit upon Earth. "If, says he, the "spirit of animation was always necessarily penetrable, it "could not influence or be influenced by the solidety of "common Matter, they would exist together, but could "not detrude each other from the part or space where they "exist, that is they could not communicate motion to each "other — No two things can influence or affect each other "which have not som property common to them both; For to influence "or affect another body is to give or to communicate some "property to it that it had not before, but how can one body "give that to another which it does not possess itself?

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"These words imply that they must agree in having "the power or faculty of popeping some common "property — Thus if one body moves another from "the part or space that it popeps, it must have the "power of occupying that space itself" This is surely a very conclusive argument against the agency of an immaterial principle on this earth. But Darwin who did not advance it as such, and who did not wish it to be considered so, obviated this, his own argument, by very pertinently giving his spirits the wonderful and almost omnipotent immunity of assuming the property of solidy, or disrobeing themselves of it, as occasion might require! — And thus he conceived a flat absurdity, because he wished to believe in spirit, yet was aware that a being void of every property of matter could not exert any influence upon matter — This however is not the only instance in which Darwens imagination got the better of his reason; and we are forced, notwithstanding his explication, to conclude from the above, that Spirit popeping no property in common with matter * can have no existence "here below"; since there could be no use for beings in a place, where they could neither influence or be influenced — Besides spirit being an unextended entity, can have no contact with the material world, and of consequence cannot affect or be affected by it —

Philosophers under the firm persuasion that Matter is incapable of thought, have always referred us to the

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intellectual part of our nature, as a proof of the existence of an immaterial principle — True, we grant, that common matter does never think, but were I asked to point out some thinking matter, I would point at a human being, who is indeed but a lump of feeling and thinking matter — But even granting the existence of spirit, which is said to be, invisible indivisible and unextended, let us see whether it is possible that such an unembodied being could think — I presume there is no one who will not admit, that thought, in whatever part it may be performed, is always accompanied with motion of some kind in the substance or thing which does think — For unless ~~thing~~ it is proven, which I think ~~[illegible]~~ no one will undertake to do, that an effect may take place without motion, this must be granted — Now motion considered relatively to the body which moves, can be but of two kinds, viz the whole body either moves from ~~the~~ its present situation without any motion of its own particles; or the body remains fixed and its own particles move, or change situation — but it is evident that thought could not be the effect of any thing moving merely forwards in a direct line, without some internal motion; and thought if it does proceed from the force of spirit must be the result of its own and internal motion — But how can there be any motion of the parts of thing which is unextended? unless indeed we suppose an unextended being has parts!

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The adoption of sentiments that reason cannot comprehend leads to eternal error, and is subversive of the minds progress towards truth and knowledge — Opinions are too often imbibed, as it were by inheritance; and defended, only because they were ~~the~~ sanctioned by our forefathers in science; and it seems as if men did not even dare to investigate for themselves, for fear reason should discover to them that their long cherished opinions are indeed but dreams — Much, however, may be expected from the spirit of free enquiry which appears at present to prevail in the Philosophic world. The young enquirer into nature is happily permitted to examine for himself and to weigh in the ballence of unbiased reason the opinions of ~~our~~ his forefathers; he is permitted to reject or to adopt whatever his reason ratifies, or cancels; he is no longer bound down, particularly in this our blest country, to follow ~~servilely~~ servilely & submissive the opinions of others or afraid by deviating from the orthodoxy of the schools, to incur their representatives inquisitorial damnations of Heterodoxy —

Religion has even been enlisted into the Phalanx of immaterial disputants, and a quotation from St Paul, from Daniel, from Samuel &c: has in their opinion overthrown a volume of substantial reasoning — Thus truth ~~truth is~~ has been clouded, and the simple and plausible arguments of reason and common sense have been swept into the kennels of inconsequence by the mystical dictum of superstition, prejudice & fanaticism —

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The disbelief in the existence of a being, of which we know nothing, nay of which we can even form no idea, is looked upon by the generality of mankind as atheistical; but whatever the credulity of prejudice may afirm, we with the most heart-felt sincerity declare our belief in the immortality of ~~our~~ the soul; for

"Immortal matter braves the transcient storm
"Mounts from the wreck unchanging but in form"

Darwin

Physicians, after having been driven to and fro, for ages on ~~the~~ an Ocean of mystical uncertainty and conjecture, were at last happily conducted to the port of truth, by the light kindled by Drs Brown & Rush. They first dared to reason in medicine, as Bacon did in Physics, and to consider the ghostly opinions of their predecessors and contemporaries in Medicine, as illusive phantoms, ~~fitted~~ fitted only to confound reason bewilder the understanding and darken science with error and superstition.

According to the doctrine established by these two illustrious philosophers, "Man and other animals differ from themselves in their dead state, or from any other inanimate matter in this property alone; they can be affected by external agents, as well as by certain functions peculiar to themselves in such a manner that the

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phenomena peculiar to the living state can be produced" — Thus then, according to this doctrine, life is a necessary result of the action of stimuli upon Matter, capacitated, by ~~the~~ a peculiar modification of its substance, to take on living action —

Here it may perhaps be said, that this capacity of which we speak, is in reality nothing more or less than the Vital principle of some Physicians; but it must be observed that a capacity, and a principle that ~~has~~ acts, are two very different things; the one is passive and the other active —

A pea has a capacity for life, but this is merely a quality which the ~~modified~~ matter of the pea has assumed in consequence of a peculiar modification, and which independent of stimuli will never expand the pea into a plant —

The experiments made by the celebrated Spalanzani on the ova of Frogs afford us the most elegant proofs of the truth of this doctrine of Animal life — He took a string of ova as the same from the female Frog, part of which he touched with diluted semen from a male Frog; and the other part he left untouched — The consequence of which was that that part ~~of~~ the string of ova which received the stimulus of the male semen, produced tadpoles; while the other part which was not stimulated by its appropriate stimulus putrefyed — In this case I ask, ~~can one~~ mean, were not these tadpoles forced into animal existence by the stimulus of the male semen? Did not Spalanzani produce living

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There are many other facts which convincingly proof the truth of the Brunonian doctrine of life; and among others the production of the chick in an Egg is a familiar one — An egg may be kept a very long time in a common temperature without the production of a chick; ~~But if this egg be placed into a~~ and this, because, tho' the embryo chick, has a capacity for life, yet for want of a proper stimulus to put that capacity into action, it ~~remain~~ remains a mere capacitated substance — If however this egg were placed into a temperature of a certain degree, the capacitated ens would become a living chick — Here then we would have the production of a living being, merely by the action of heat upon a body so organis'd as to possess a capacity to life — the heat acts purely as a stimulus — It has been said that if life were a forced state of being, its durance could be prolonged to any extent — This however, is no objection or at least a very futile one — We consider that the same causes, which, those who make this objection say, expells their vital principle from the body, is sufficient to destroy the vital capacity of the body —

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than do or germinate? Why do they remain in the same passive condition, so long as a proper stimulus is not applied to them? But granting the existence of an independent principle of life; must it have a stimulus to rouse it into action? We see it must — and will it then still be said that life is not a "forced state" —

It has been asked by some, where does this capacity to life, this "excitability", of which we have been speaking, come from? — We see, that the various changes of combination which the original elements of the world have assumed since the creation of time, has produced Millions of contrary bodies, differing in their laws, their qualities & their properties — Chemistry assists us in this department of Philosophy; we are instructed by that science, that bodies tho' formed from the same elements of matter assume very different qualities &c. —
Seeing this, is it irrational to suppose; nay is it not the dictate of reason to assert, that the elements of matter may so arrange themselves, as to give to a body, the quality of being made active or living, when acted upon, by congenial stimuli? —

If, say the opponents to this doctrine, it were true that the mere fortuitous concurrence of the elementary parts of matter could form an animated aggregate, why would we not see Men and other animals springing up in the air water earth &c — It is, however, not said, that any modification of matter does or can produce a truly

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but, from reasoning and from observation, we think it is more than probable that modifications may and does produce such a change in common matter, as to give it a capacity of being made living, when acted upon by extrinsic and appropriate causes —

This is truly a grand and comprehensive view of existence! Nothing can be more greatly eminent of the goodness, the power, and the wisdom of the First Cause, than that view of nature which makes him, the Cause of causes, giving laws to Matter, by which alone the various objects in the Universal World are produced —

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